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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,910	07/09/2001	Makoto Higashiyama	F-7058	7128
7590 03/23/2004				
Jordan and Hamburg 122 East 42nd Street New York, NY 10168		EXAMINER ARNOLD, ADAM		
		ART UNIT PAPER NUMBER		
		2671		
		DATE MAILED: 03/23/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/900,910

Applicant(s)

HIGASHIYAMA ET AL.

Examiner

Adam Arnold

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

The examiner acknowledges the receipt and entry of the applicant's amendment.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morihira, U.S. Patent No. 6,361,438 in view of Deleeuw, U.S. 2001/0040584 A1. Referring to claim 1, Morihira discloses a 3D image processing unit for displaying a model located in a simulated 3D space on a monitor (col. 2, lines 12-15) comprising: a first memory for storing a rendered model image as a collection of pixel data (col. 4, lines 59-60 and 9a in Figure 1); a second memory for storing distance information from a viewing point of a simulated camera in correspondence with each pixel position (col. 4, lines 65-67 and 9b in Figure 1); an image processing means (col. 2, line 58) for applying semitransparent processing to each pixel data read from the first memory (col. 3, lines 2-4); a rewriting means (or "combining" means, col. 3, line 5) for rewriting the pixel data from the image processing means at the same pixel position as that of the first memory from which the pixel data was read when said distance information from the viewing point of the camera is a specified reference value or larger (col. 2, line 61 to col. 3 line 6 and col. 3, line 49-51); a control means (col. 2, line 33) for causing the image processing means and the rewriting means to repeatedly operate only a specified number of times while successively

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increasing the reference value and degree of transparency (col. 7, lines 37-40); and an image introduced to the monitory after processing by the control means (col. 2, line 59). Morihira does not disclose where the image processor applies averaging to each pixel. Deleeuw discloses applying averaging processing to the pixels (paragraph 43, line 17). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to apply averaging processing to each pixel. One of ordinary skill in the art would have been motivated to do this to create a more realistic rendered image and reduce artifacts (see paragraph 6, lines 1-6 of Deleeuw).

Referring to claim 2, Morihira does not disclose where the image processing means applies the semitransparent processing to the averaged pixel data of claim 1. Deleeuw discloses where the image processing means applies the semitransparent processing to the averaged pixel data (paragraph 43, line 17-26). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to have the image processing means applies the semitransparent processing to the averaged pixel data. One of ordinary skill in the art would have been motivated to do this because applying averaging to each pixel read from memory will help to create a more realistic image just as applying transparency processing to each pixel.

Referring to claim 3, Morihira discloses where the rewriting means does not rewrite the image data at the pixel position where distance information from the viewing point of the camera is below the specified reference value (col. 3, lines 49-51—although the reference states that the transparency information is applied when the distance is above the reference, the implication is that it is not when the distance is below).

Referring to claim 4, Morihira discloses where the control means successively increases the reference value by a predetermined amount (col. 7, lines 13-22).

Referring to claim 5, Morihira discloses where the control means successively increases the degree of transparency by a predetermined amount (col. 7, lines 39-40).

Referring to claim 6, Morihira discloses an externally operable member capable of moving the viewing point of the simulated camera in the simulated 3D space as it is operated (col. 7, lines 1-4) and a distance calculating means for calculating the distance from the viewing point of the simulated camera for each pixel position (col. 6, lines 34-38).

Referring to claim 7, Morihira discloses a frame buffer to store model image pixel data (col. 8, line 60). The remarks presented above with respect to claim 1, apply equally to the remainder of the claim.

Referring to claim 8, the remarks presented above with respect to claim 2, apply equally to this claim.

Referring to claim 9, the remarks presented above with respect to claim 3, apply equally to this claim.

Referring to claim 10, the remarks presented above with respect to claim 4, apply equally to this claim.

Referring to claim 11, the remarks presented above with respect to claim 5, apply equally to this claim.

Referring to claim 12, the remarks presented above with respect to claim 6, apply equally to this claim.

Referring to claim 13, the remarks presented above with respect to claim 1, apply equally to this claim.

***Response to Arguments***

3. Applicant's arguments, see pages 1-3, filed December 29, 2003, with respect to claims 1-13 have been fully considered and are persuasive. The rejections of claims 1-13 have been withdrawn. New grounds for rejection have been entered.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Adam Arnold** whose telephone number is **703-305-8413**. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231


**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

  
MARK ZIMMERMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600